

Change Summary Sheets for Revisions F to MIL-STD-883
18 June 2004

Item No.	Section of Change	Paragraph to be Changed	Description of Change	Justification for Change	Page(s) Changed
1	Main Body	1.2.2 Provisions for the use of MIL-STD-883	Change the words on last sentence of the third paragraph From: "does not satisfy the form, fit and function requirements of MIL-STD-973" To: "does not satisfy the requirements for form, fit, and function defined in MIL-PRF-38535"	MIL-STD-973 has been cancelled. The applicable information can now be found in MIL-PRF-38535.	2
2	Main Body	2.2.1 Specifications, standards and handbooks	Delete references for: FED-STD-209 MIL-STD-280 MIL-STD-973	These documents have been canceled	3
3	Main Body	2.2.1 Specifications, standards and handbooks	Change the title of MIL-STD-1835: From "Microcircuit Case Outlines" To: "Electronic Component Case Outlines".	Correction	3
4	Main Body	2.2.1 Specifications, standards and handbooks	Add reference for the following Handbook: MIL-HDBK-505	Replacement for MIL-STD-280, which was canceled.	3
5	Main Body	2.3 Non-Government publications	Add reference for the following International Organization for Standardization (ISO) document: ISO 14644-1 ISO 14644-2	A replacement for the canceled FED-STD-209	4
6	Main Body	2.3 Non-government publications	Change address for ANSI to: American Nat'l Standards International 25 West 43 RD Street, 4 TH Floor New York, NY 10036	Correction	4

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7	Main Body	2.3 Non-Government publications	Add references for the following Electronics Industries Alliance (EIA) standards: IPC/EIA/JEDEC J-STD-002 EIA/JESD78 EIA-557-A	These documents are referenced within the various test methods.	4
8	Main Body	2.3 Non-Government publications	Add the following American Society for Testing and Materials (ASTM) documents to the list of references: ASTM E 526, ASTM E 720, ASTM E 722 ASTM E 1249, ASTM E 1250 ASTM E 1275, ASTM F 458, ASTM F 459, ASTM F 1892.	These documents are referenced within the various test methods.	4-5
9	Main Body	2.3 Non-government publications	Change address for ASTM to: ASTM International PO Box C700 100 Barr Harbor Drive West Conshohocken, PA 19428-2959	Current information provided by ASTM.	5
10	Main Body	3.1 Abbreviations, symbols and definitions	Change the referenced document: From: "MIL-STD-280" To: "MIL-HDBK-505"	The standard was canceled with notice to use this handbook as a replacement.	6

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11	Main Body	4.5.9.1 Temperature Control	<p>Replace the first two sentences with the following four sentences:</p> <p>“Unless otherwise specified, the device (including its internal elements, e.g., die, capacitors, resistors, etc.) shall reach temperature and be stabilized in the power-off condition to within $\pm 3^{\circ}\text{C}$ (or $+6^{\circ}\text{C} -3^{\circ}\text{C}$ for hybrids) of the specified temperature. Note: Hybrids may exceed the positive tolerance of $+6^{\circ}\text{C}$ if their construction dictates and providing the manufacturer can assure that the devices under test are not degraded. When an established temperature characterization profile is available for a device to be tested, this profile may be used in lieu of temperature measurements to determine the proper heat soak conditions for meeting this requirement. When using a temperature characterization profile, test apparatus monitoring will assure that the controls are providing the proper test environment for that profile. After stabilization, testing shall be performed and the T_C, T_A, T_J, controlled to not fall more than 3°C from the specified temperature.”</p>	To reflect proper interpretation of this requirement for electrical test and soak time for components (hybrids) having large elements as part of their make up.	13
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12	Main Body	<p>4.5.9.2 Temperature Control during testing below 25 °C</p>	<p>Replace the first two sentences with the following four sentences:</p> <p>“Unless otherwise specified, the device (including its internal elements, e.g., die, capacitors, resistors, etc.) shall reach temperature and be stabilized in the power-off condition to within ± 3 °C (or -6 °C +3 °C for hybrids) of the specified temperature (see note below). Note: Hybrids may exceed the negative tolerance of -6 °C if their construction dictates and providing the manufacturer can assure that the devices under test are not degraded. When an established temperature characterization profile is available for a device to be tested, this profile may be used in lieu of temperature measurements to determine the proper heat soak conditions for meeting this requirement. When using a temperature characterization profile, test apparatus monitoring will assure that the controls are providing the proper test environment for that profile. After stabilization, (this temperature shall be identified as the cold-start temperature) testing shall be performed and the T_C, T_A, or T_J, controlled to not exceed +5 °C of the specified temperature throughout the test duration.”</p>	<p>To reflect proper interpretation of this requirement for electrical test and soak time for components (hybrids) having large elements as part of their make up.</p>	14
13	Main Body	<p>4.5.9.3 Temperature Control during testing at 25 °C</p>	<p>Add these words in the first sentence:</p> <p>“(including its internal elements, e. g., die, capacitors, resistors, etc.)”</p> <p>between “the device” and “shall be stabilized”.</p>	<p>To reflect proper interpretation of this requirement for electrical test and soak time for components (hybrids) having large elements as part of their make up.</p>	14

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14	TM 1010 Temperature Cycling	1.1.1 Load	In third sentence, add the words “(single block)” after the word “Monolithic”.	Reference: Task Group 150-501 during JC-13.5 meeting, 14-15 January 2003.	1
15	TM 1010 Temperature Cycling	1.1.2 Monitoring sensor.	In the first sentence delete the words “and calibrated so as”. In the first sentence change the words from “as at the worst case” to read “as that of the worst case”.	Reference: Task Group 150-501 during JC-13.5 meeting, 14-15 January 2003.	1
16	TM 1010 Temperature Cycling	1.1.3 Worst case load temperature.	In first sentence add the words “or equivalent mass” after the word “specimens”. In the last sentence add the words “(point which reaches temperature last) after the words “worst case load temperature”.	Reference: Task Group 150-501 during JC-13.5 meeting, 14-15 January 2003.	1
17	TM 1010 Temperature Cycling	1.1.6 Transfer time.	Change the phrase from “specimen removal” to read “initiation of load transition (for a single chamber or specimen removal for multiple chambers).” At end of last sentence add the word “temperature”.	Reference: Task Group 150-501 during JC-13.5 meeting, 14-15 January 2003.	1
18	TM 1010 Temperature Cycling	1.1.7 Maximum load	Delete the words “(see 3.1) at the end of the section.	Reference: Task Group 150-501 during JC-13.5 meeting, 14-15 January 2003.	1
19	TM 1010 Temperature Cycling	1.1.8 Dwell time.	Change the words from “into the chamber” to read “to one extreme environment temperature”. Change the words from “the load is transferred out of the chamber” to read “the initiation of the transfer to the other extreme temperature environment”.	Reference: Task Group 150-501 during JC-13.5 meeting, 14-15 January 2003.	1
20	TM 1010 Temperature Cycling	2.0 APPARATUS.	In the next to the last sentence delete the words “reading the monitoring sensor(s)”.	Reference: Task Group 150-501 during JC-13.5 meeting, 14-15 January 2003.	1

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21	TM 1010 Temperature Cycling	3.0 PROCEDURE.	In the fourth sentence, add the note "See Figure 1010-1)" at the end.	Reference: Task Group 150-501 during JC-13.5 meeting, 14-15 January 2003.	1
22	TM 1010 Temperature Cycling	3.1 Timing.	In the first sentence, add the words "(for multiple chambers)" at the end. In the last sentence, add the words "(16 minutes for single chamber)" at the end.	Reference: Task Group 150-501 during JC-13.5 meeting, 14-15 January 2003.	1
23	TM 1010 Temperature Cycling	Table 1010-1. An Example of Temperature Cycling Test Condition C	Add new Figure 1010-1: An example of temperature cycling test condition C	Reference: Task Group 150-501 during JC-13.5 meeting, 14-15 January 2003.	3
24	TM 1014 Seal	2.6 Test Conditions C ₄ and C ₅	Add new first sentence stating, "This test condition applies to individual devices and devices mounted on printed circuit boards or higher level assemblies." In current first sentence change "suitable vacuum or vacuum/pressure chamber" to read "suitable pressure or vacuum/pressure chamber". In current second sentence change "10 ⁻⁵ atm-cc/s and greater for gross leak detection (C ₄), or 1 X 10 ⁻⁷ atm-cc/s and greater for fine leak detection (C ₅)" to read "10 ⁻⁵ atm-cc/sec and greater for gross leak detection (C ₄), and 5 X 10 ⁻⁹ atm-cc/sec and greater for fine leak detection (C ₅)". Add a Note below the section that reads: "Note: Prior to performing optical gross/fine leak testing, the test designer will need to know what limits the DUT has. Extreme pressure/vacuum may cause damage to some devices. The test designer will need to design the test conditions around such limitations."	New material is added to update test method for advanced technology in laser equipment for Optical Leak Test.	3

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25	TM 1014 Seal	2.6.1 Apparatus initial setup	<p>Add this new section stating:</p> <p>The optical gross/fine leak test equipment requires system parameter normalization as determined uniquely for each particular device under test. To accomplish this an initial device package set up and calibration shall be performed using two or more package specimens with a known hermeticity of $<5 \times 10^{-8}$ cc-atm/sec and a known internal free volume. These device packages shall be of the same type and geometry as the packages to be tested. These known good packages are tested in the system to calibrate the device stiffness values used in determining the device leak sensitivity (see 3.6.2).</p>		3
26	TM 1014 Seal	2.6.2 Process monitoring	<p>Add this new section stating:</p> <p>A group of "system check devices" with a known hermeticity of $<5 \times 10^{-8}$ cc-atm/sec, maintained by the test facility, shall be used for system operation verification at the beginning and end of each work shift. This check of the system's operation shall be completed using a minimum of two package specimens from the "system check devices".</p>		3
27	TM 1014 Seal	3 PROCEDURE	<p>In last sentence, change "lid stiffness requirements defined in 3.6" to read "lid stiffness requirements defined in 3.6.1".</p> <p>Add at the end of paragraph the sentence "This includes devices that are conformal coated such as circuit board assemblies."</p>	New material is added to update test method for advanced technology in laser equipment for Optical Leak Test.	4

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28	TM 1014	3.1.1 Test condition A1 and A2, procedure applicable to “fixed” and “flexible” methods.	Add a note below paragraph stating the following: “Flexible Method shall be used unless otherwise specified in acquisition document, purchase order, or contract.”	Clarification of the requirements.	4
29	TM 1014 Seal	3.1.1.2 Test Condition A ₂ , Flexible Method.	Delete the third sentence which states “If the dwell time (t ₂) is greater than 60 minutes, graphs shall be plotted . . .”	Graph has been removed from document.	5
30	TM 1014 Seal	3.6 Test condition C4 or C5 – optical gross or gross/fine leak	Change this heading title from “Test condition C ₄ or C ₅ – optical gross or gross/fine leak” to read as “ <u>Test condition C₄ or C₅ – optical gross/fine leak.</u> ” Delete the remainder of the section.	New material is added to update test method for advanced technology in laser equipment for Optical Leak Test.	11

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31	TM 1014 Seal	3.6.1 Lid Stiffness	<p>Renumber current 3.6.1 <u>Test condition C₄</u> as paragraph 3.6.3.</p> <p>Add new paragraph 3.6.1 <u>Lid Stiffness</u>. New 3.6.1 paragraph will read as follows: “Test condition C₄ and C₅ are valid for packages with relatively thin metallic or ceramic lids or other materials that meet the lid stiffness requirements stated below. The test sensitivity is related to the extent of measurable deformation of the lid. The measurable deformation is increased by increasing the specific pressure differential and the test time used. For a specific lid material and size the following formula indicates the minimum measurable deformation:</p> <p>For condition C₄: $R^4/E T^3 > 1.0 \times 10^{-4}$ For condition C₅: $R^4/E T^3 > 3.0 \times 10^{-4}$</p> <p>Where: R = The minimum width of free lid (inside braze or cavity dimension in inches). E = The modulus of elasticity of the lid material. For Example: Aluminum: $E = 10 \times 10^6 \text{ lbs/in}^2$ Kovar: $E = 20 \times 10^6 \text{ lbs/in}^2$ Ceramic: $E = 60 \times 10^6 \text{ lb/in}^2$ T = The thickness of the lid (inches)”</p> <p>Note: As test time (t) and pressure (P_O) are increased, C₅ will become smaller approaching C₄.</p>	New material is added to update test method for advanced technology in laser equipment for Optical Leak Test.	11
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32	TM 1014 Seal	3.6.2 Leak sensitivity	<p>Add new paragraph 3.6.2. <u>Leak sensitivity</u></p> <p>Paragraph will read as follows: “The optical leak test shall be performed with a test pressure (P_O) and time (t), which will provide the leak rate sensitivity required. The leak rate sensitivity is provided by the following equation:</p> $L = (-V_O/k_2t) \times \ln(1-d_{Yt}/P_O L_O)$ <p>Where: L = The leak rate sensitivity of the test (atm-cc/sec). V_O = The volume of the package cavity (in^3). k_2 = The leak test gas constant (air = 1.0, He = 2.67). t = The test duration time (seconds) d_{Yt} = The measured deformation of the package lid (inches). P_O = The chamber pressure during the test (psig). L_O = The lid stiffness constant calculated from the package dimensions (inch/psi).</p>	New material is added to update test method for advanced technology in laser equipment for Optical Leak Test.	12
33	TM 1014 Seal.	3.6.2 Leak sensitivity	Add a note with example for determining the value of L_O .	New material is added to update test method for advanced technology in laser equipment for Optical Leak Test	12
34	TM 1014 Seal	3.6.2.1 Controlling Sensitivity by Controlling Test time and Pressure.	<p>Add new paragraph 3.6.2.1 which reads as follows: “As stated above, for a specific package lid thickness (T), and volume (V_O), the leak rate sensitivity (L) is improved by increasing the test time (t) and chamber pressure (P_O).”</p>	New material is added to update test method for advanced technology in laser equipment for Optical Leak Test.	12

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35	TM 1014 Seal	3.6.3 Test condition C ₄ – optical gross leak.	<p>Current paragraph 3.6.1 is renumbered as 3.6.3.</p> <p>Prior to first sentence add “(This test may be performed in conjunction with optical fine leak C₅).”</p> <p>Change “deflection” to “deformation” in three places.</p> <p>Second sentence, change “An optical interferometer is set . . .” to read as “The optical interferometer shall be set . . .”</p> <p>Third sentence, change “The chamber is then evacuated . . .” to read as “The chamber shall then be pressurized or evacuated . . .”</p> <p>Last sentence, change “reduced pressure held constant for time t₁ . . .” to read as “pressure (P₀) held for time t . . .”</p>	New material is added to update test method for advanced technology in laser equipment for Optical Leak Test.	13
36	TM 1014 Seal	3.6.3.1 Failure Criteria	<p>Current paragraph 3.6.1.1 is renumbered as 3.6.3.1.</p> <p>In part a, delete the word “initially”; change “deflecting” to “deformation”.</p> <p>In part b, change “deflecting” to “deformation”.</p>	New material is added to update test method for advanced technology in laser equipment for Optical Leak Test.	13

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37	TM 1014 Seal	3.6.4 Test condition C ₅ – optical gross/fine leak	<p>Current paragraph 3.6.2 is renumbered as 3.6.4.</p> <p>Change heading from “optical gross/fine leak” to read “optical fine leak”</p> <p>Prior to first sentence add “(This test may be performed in conjunction with optical gross leak C₄).”.</p> <p>Add new third sentence “The sealed test chamber is then pressurized with Helium gas to no more than the maximum design pressure as determined by the package manufacturer or the design limit of the chamber, which ever is less.”</p> <p>Original third sentence, change “The chamber is then evacuated while the deflection of the lid(s) is being observed with the optical interferometer.” to read as “The chamber is then pressurized or evacuated while the deformation of the lid(s) is being measured with the optical interferometer.”</p> <p>Change the last sentence from “The deflection on the lid(s) with the pressure changed and the lack of continued deflection of the lid(s) with the reduced pressure held constant for time t₁ (or equivalent procedure), will be observed for each package. . .” to read as “The deformation of the lid(s) with pressure change, for time t (or equivalent procedure), will be measured for each package. . .”</p>	New material is added to update test method for advanced technology in laser equipment for Optical Leak Test.	13
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38	TM 1014 Seal	3.6.4.1 Failure criteria	<p>Current paragraph 3.6.2.1 is renumbered as paragraph 3.6.4.1.</p> <p>Section a: Change “did not detect deflection of the lid” to read “did not detect proportional deformation of the lid”</p> <p>Section a: Delete the word “initially”.</p> <p>Section b: Delete this section.</p> <p>Section c: Renumber as Section b. Change “deflecting” to read “deforming” and change “time t_2” to “time t”.</p>	New material is added to update test method for advanced technology in laser equipment for Optical Leak Test.	13
39	TM 1014 Seal	4 Summary	<p>Section b: Change the referenced “3.6.2.1” to read “3.6.4.1”.</p> <p>Section e: Change “C_4” to “C_4/C_5”.</p> <p>Section g: Delete first sentence. In second sentence, change “These conditions include package inspection . . .” to read as “Leak testing with conditions C_4 and C_5 also include package testing . . .”</p>	New material is added to update test method for advanced technology in laser equipment for Optical Leak Test.	13
40	TM 1016 Life/Reliability Characterization Tests	1 Purpose	<p>In the note, change reference pages</p> <p>From: “60-78”</p> <p>To: “69-78”.</p>	Correction	1
41	TM 1018 Internal Water-vapor Content	3.1 Procedure 1	<p>Add the sentence: “The internal water-vapor content laboratory is not required to test for hermeticity in accordance with Test Method 1014 of MIL-STD-883.”, to the end of the first paragraph.</p>	To alleviate confusion.	3

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42	TM 1030 Preseal Burn-in	3.1.3 Test environment	Change the words "class 100,000 maximum environment" to read "100,000 (0.5 µm or greater) particles/cubic foot controlled environment (class 8 of ISO 14644-1)".		1
43	TM 1034 Dye Penetrant Test	3.1.a Mix dye solution	Add the note stating: "Solutions with an established or verifiable equivalent chemical makeup and performance may be used."	Needed because of supply difficulties in finding listed products.	2
44	TM 2003 Solderability	All	The method is revised to call out IPC/EIA/JEDEC J-STD-002, with exceptions as needed specified. Of special note: Section 2.2, <u>Coating Durability</u> ; gold is moved from Category 2 to Category 3.	Reference: Task Group 9901 during JC-13.5 meeting, 12 September 2002.	All
45	TM 2010 Internal Visual (Monolithic)	3c Inspection control	Change references: From: class 100 environment To: 100 (0.5 µm or greater) particles/cubic foot controlled environment (class 5 of ISO 14644-1) From: class 100,000 environment To: 100,000 (0.5 µm or greater) particles/cubic foot controlled environment (class 8 of ISO 14644-1)		2
46	TM 2010 Internal Visual (Monolithic)	3.f (6) Controlled environment	Change reference: From: class 1,000 environment To: 1,000 (0.5 µm or greater) particles/cubic foot controlled environment (class 6 of ISO 14644-1)		3
47	TM 2010 Internal Visual (Monolithic)	Figure 2010-30 Untrimmed resistor material criteria	The figure is changed to correct errors. Change Title from "Untrimmed resistor material criteria" to "Resistor Criteria". Add "Top Hat Trim". Adjust reject/accept criteria.	This figure title states, "Untrimmed resistor material", but the drawing depicts "trimmed resistors". Also, w=1/2 is acceptable, not a reject criteria.	31-32

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48	TM 2010 Internal Visual (Monolithic)	Figure 2010-31 Scratch and void criteria for trimmed resistors	Change title From: Scratch and void criteria for trimmed resistors To: Scratch, void, and trim criteria for resistors. Some components depicted state an accept criteria of $\geq \frac{1}{2} W$ but appear to show in the drawing rejectable presentations. The figure is changed to correct this condition.	The figure needs corrected to reflect actual criteria.	33
49	TM 2017 Internal Visual (Hybrid)	3 c Inspection Control	Delete: the reference to "FED-STD-209" Change references: From: class 100 environment To: 100 (0.5 μm or greater) particles/cubic foot controlled environment (class 5 of ISO 14644-1) From: class 100,000 environment To: 100,000 (0.5 μm or greater) particles/cubic foot controlled environment (class 8 of ISO 14644-1) From: class 1,000 environment To: 1,000 (0.5 μm or greater) particles/cubic foot controlled environment (class 6 of ISO 14644-1)	FED-STD-209 is canceled.	1
50	TM 2017 Internal Visual (Hybrid)	3.1.5.8 k General	Change "Wedge or crescent bonds" to read "Wedge, crescent, or ball bonds".	TM 2010 has criteria for entering metal for ball bonds while TM 2017 does not. This is inconsistent.	17

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51	TM 2018 Scanning Electron Microscope Inspection	1. PURPOSE	<p>Add the words “non-planar oxide” to the first sentence between the words “interconnect metallization on” and “integrated circuit wafers.”</p> <p>Add as the second sentence of the section the following: “SEM inspection is not required on planar oxide interconnect technologies such as chemical mechanical polish (CMP) processes.”</p>	Reference: Survey Ballot Number JC-13.2-02-XXX by Task Group 2001-02-MIL-STD-883.	1
52	TM 2018 Scanning Electron Microscope Inspection	2 Apparatus	<p>Change magnification</p> <p>From: “1,000X to 20,000X” To: “1,000X to 20,000X or greater”.</p>	Reference: Survey Ballot Number JC-13.2-02-XXX by Task Group 2001-02-MIL-STD-883.	2
53	TM 2018 Scanning Electron Microscope Inspection	3.1 Sample selection	<p>Add Note below paragraph stating: “When die or packaged parts are to be evaluated for wafer lot acceptance and the requirements for wafer selection per Table I cannot be met, the following sample size shall be utilized: . . .”.</p> <p>a. . . known homogeneous wafer lot . . 8 .</p> <p>b. . . non-homogeneous wafer lot . . .22 .</p>	Reference: Survey Ballot Number JC-13.2-02-XXX by Task Group 2001-02-MIL-STD-883.	2
54	TM 2018 Scanning Electron Microscope Inspection	3.5.1.2 Barrier/adhesion layers	<p>Change the words</p> <p>From: “may be implemented in two different ways as specified below:” To: “designed to conduct less than 10% of the total current is not required as this is considered a non-conduction layer.”</p>		6

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55	TM 2018 Scanning Electron Microscope Inspection	3.5.1.2.1 Barrier/adhesion layer as a non- conductor	Delete this paragraph.	Reference: Survey Ballot Number JC-13.2-02-XXX by Task Group 2001-02-MIL-STD- 883.	6
56	TM 2018 Scanning Electron Microscope Inspection	3.5.1.2.2 Barrier/adhesion layer as a conductor	<p>Renumber paragraph as 3.5.1.2.1</p> <p>Change the first phrase in the second sentence From: "When this occurs both the barrier/adhesion layer and the principal conduction layer" To: "When this occurs the barrier/adhesion layer and/or the principal conduction layer"</p> <p>Change the last phrase in the second sentence From: "shall satisfy all of the step coverage requirements individually" To: "shall satisfy all of the step coverage requirements collectively as baselined by the manufacturer".</p>	Reference: Survey Ballot Number JC-13.2-02-XXX by Task Group 2001-02-MIL-STD- 883.	6
57	TM 2018 Scanning Electron Microscope Inspection	3.5.1.2.2.1 The Etchback process	Renumber this paragraph as 3.5.1.2.1.1		6
58	TM 2018 Scanning Electron Microscope Inspection	3.5.1.2.2.2 In-line procedure	Renumber this paragraph as 3.5.1.2.1.2		6

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59	TM 2018 Scanning Electron Microscope Inspection	Table II Examination procedure for specimens	Under Passivation steps, in the Minimum- maximum magnification column, change values From: "5,000X to 20,000X" To: "5,000X to 50,000X".	Reference: Survey Ballot Number JC-13.2-02-XXX by Task Group 2001-02-MIL-STD- 883.	6
60	TM 2018 Scanning Electron Microscope Inspection	3.7.2 Passivation steps	Change the last four sentences to read as: "A minimum of 20 percent total metallization coverage (barrier metal inclusive, see figure 2018-24) in the primary current carrying direction will be allowed for metallization over a passivation step when the structure involved is a circular or multisided via or contact structure and there is sufficient wrap- around metal (>10 percent of incoming metal line width) to allow for current flow to all sides of the via or contact. The metallization must meet the current density requirements of MIL-PRF-38535. In cases where an absence of visible edge or a smooth transition or taper clearly reveals effective coverage, a cross-section will be performed to verify metal coverage."	Reference: Survey Ballot Number JC-13.2-02-XXX by Task Group 2001-02-MIL-STD- 883.	7
61	TM 2018 Scanning Electron Microscope Inspection	3.7.2 1 Current density	Delete this section.	Reference: Survey Ballot Number JC-13.2-02-XXX by Task Group 2001-02-MIL-STD- 883.	7
62	TM 2018 Scanning Electron Microscope Inspection	3.7.2 2 Contact dimensions	Delete this section.	Reference: Survey Ballot Number JC-13.2-02-XXX by Task Group 2001-02-MIL-STD- 883.	7

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63	TM 2018 Scanning Electron Microscope Inspection	3.7.2.3 Metallization coverage	Delete this section.	Reference: Survey Ballot Number JC-13.2-02-XXX by Task Group 2001-02-MIL-STD- 883.	7
64	TM 2018 Scanning Electron Microscope Inspection	3.7.2.4 Nonrejectable cross-sectioning area.	Renumber this section as 3.7.2.1 Change the words in the first sentence From: "less than 50 percent (or 30 percent when 3.7.2.1 through 3.7.2.3 have been met)" To: "less than as allowed in 3.7.2".	Reference: Survey Ballot Number JC-13.2-02-XXX by Task Group 2001-02-MIL-STD- 883.	7
65	TM 2018 Scanning Electron Microscope Inspection	3.7.2.4.1 Condition 1.	Renumber this section as 3.7.2.1.1	Reference: Survey Ballot Number JC-13.2-02-XXX by Task Group 2001-02-MIL-STD- 883.	8
66	TM 2018 Scanning Electron Microscope Inspection	3.7.2.4.2 Condition 2.	Renumber this section as 3.7.2.1.2	Reference: Survey Ballot Number JC-13.2-02-XXX by Task Group 2001-02-MIL-STD- 883.	8
67	TM 2018 Scanning Electron Microscope Inspection	3.7.2.5 Nonrejectable, noncovered directional edge	Renumber this section as 3.7.2.2 Change the reference in the paragraph From: 3.7.2.4 To: 3.7.2.1 Renumber the two subsections 3.7.2.5.1 and 3.7.2.5.2 as 3.7.2.2.1 and 3.7.2.2.2 In the NOTE below 3.7.2.2.2 (Condition 2), Change the references in the note From: 3.7.2.5.1 and 3.7.5.2.2 To: 3.7.2.2.1 and 3.7.2.2.2.		8

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68	TM 2018 Scanning Electron Microscope (SEM) Inspection	Figure 2018-4 Wafer sampling procedures	First figure, change subtitle from "STATIONARY WAFER-HOLDER SYSTEM" to read "STATIONARY (EVAPORATION) WAFER-HOLDER SYSTEM". Second figure, change subtitle from "ROTATING AND PLANETARY WAFER- HOLDER SYSTEM" to read "ROTATING, STATIONARY (SPUTTERING), PLANETARY OR CONTINUOUS FEED WAFER-HOLDER SYSTEM",	In Table 1, not all conditions are listed in the required sampling techniques. This adds clarity as to which figure is correct for these conditions.	14-15
69	TM 2018 Scanning Electron Microscope (SEM) Inspection	Figure 2018-24 20% metallization coverage (barrier metal inclusive)	This is a new figure to be added		35
70	TM 2020 Particle Impact Noise Detection (PIND) test	3.3.1 Mounting requirements	Add the sentence "Batch or bulk testing is prohibited" after the first sentence. Add the sentence The DUT shall be placed such that the geometric center of the surface contacting the transducer is centrally located on the transducer to within approximately 2 mm of the transducer surface's geometric center."	Reference: Task Group 9705 during JEDEC meeting, 14-15 January 2003.	2
71	TM 2020 Particle Impact Noise Detection (PIND) test	3.5 Screening lot acceptance.	At the end of sentence three (following the words "less than 1 percent") add the words "and the cumulative number of defective devices does not exceed 25 percent". The last sentence delete all words except the words "Resubmission is not allowed."	Clarification on how to interpret the requirements.	3

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72	TM 2020 Particle Impact Noise Detection (PIND) test	Table I Package Height vs test Frequency for 20 g acceleration (condition A)	Replace this table with one that is corrected according to the provided formula. Add the formula and show sample calculation.	Reference: Task Group 9705 during JEDEC meeting, 14-15 January 2003.	4
73	TM 2032 Visual Inspection of Passive Elements	3.d Inspection environment	Delete: the reference to "FED-STD-209" Change references: From: class 100 environment To: 100 (0.5 μ m or greater) particles/cubic foot controlled environment (class 5 of ISO 14644-1) From: class 100,000 environment To: 100,000 (0.5 μ m or greater) particles/cubic foot controlled environment (class 8 of ISO 14644-1)	FED-STD-209" has been cancelled	1
74	TM 2032 Visual Inspection of Passive Elements	3.i (7) Controlled environment	Change definition to read as: From: "is one that is in accordance with the requirements of Federal Standard 209, class 1000 environment, except that . . ." To: "is one that has 1,000 or fewer (0.5 μ m or greater) particles/cubic foot in a controlled environment in accordance with the requirements of ISO 14644-1 for a class 6 environment, except that . . ."	FED-STD-209" has been cancelled	3
75	TM 2032 Visual Inspection of Passive Elements	Figure 2032-43h Class H separation and chipout criteria	In the drawing, change the reject criteria: From: "< .1 MIL" To: "< 1.0 MIL".	Correction so that it agrees with paragraph 3.2.2 a.	47

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76	TM 2032 Visual Inspection of Passive Elements	3.2.6 All thin film capacitors . . .	Change the paragraph title to read , "All thick film capacitors . . .".	Correction	56
77	TM 5004 Screening Procedures	3.2 Constant acceleration procedure	Change the reference from "see 3.1.5" to read as "see Table 1, Section 3.1.5" (in two places).	Clarification	2
78	TM 5004 Screening Procedures	3.2 Constant acceleration procedure	In the second paragraph (the second sentence) change From: "Unless otherwise specified" To: "Unless otherwise specified in the acquisition document".	Clarification	2
79	TM 5005 Qualification and Quality Conformance Procedures	3. Procedure	Third paragraph, add radiation level "P" to those listed in the last sentence.	New level	1
80	TM 5005 Qualification and Quality Conformance Procedures	Table IIa Group B tests for class level S devices	In footnote <u>3</u> / change From: "See <u>6</u> / of table IV" To: "See Subgroup 6 of table IV".	Correction	7
81	TM 5007 Wafer Lot Acceptance	Table 1 Wafer lot acceptance tests	Footnote <u>3</u> / change the phrase From: "shall be submitted to the qualifying activity for the certification in accordance with DESC-EQM-42 or equivalent" To: "shall be documented in the manufacturer's baseline documentation"	Form DESC-EQM-42 is no longer valid.	4
82	TM 5010 Test for Complex Monolithics	3.1.6 Radiation	Last sentence, add radiation level "P" to those listed in the last sentence.	New level	1
83	TM 5010 Test for Complex Monolithics	3.5.2.1 Radiation hardness	Last sentence, add radiation level "P" to those listed in the last sentence.	New level	11

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